

ABSTRACT OF THE DISCLOSURE

The present invention is directed to a fused coupler having at least two fiber optic cables that have a positive coefficient of thermal expansion. A section of each of the fiber optic cables is placed together and heated until they form a single fused section that acts as a coupler. A jacket having a negative coefficient of thermal expansion, the absolute value of which is approximately equal to the absolute value of the positive coefficient of thermal expansion of the fiber optic cables, is placed around the fused section of the fiber optic cables. The jacket can be manufactured from a ceramic material that is specifically manufactured with a negative coefficient of thermal expansion. A filler material, such as an epoxy resin, is inserted in a gap between the jacket and the fused sections of the fiber optic cables such that the gap is filled in.

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